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AUTHOR Kimweli, David M. S.; Anderman, Eric M.
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ABSTRACT

Researchers have used numerous research strategies in an effort to understand and potentially curb violence and drug use. One such approach, which considers school violence from a social learning perspective and examines it as a result of the interaction between environmental events and personal/psychological factors, is presented in this research review. Variables which may predict violence in schools are isolated and violence was operationalized in terms of being attacked at school and avoiding certain places in school. Substance abuse was operationalized in terms of students' perceptions of substance abuse in school. Analysis of research literature indicates that older students reported higher levels of substance abuse, but lower incidents of violence than did younger students. Income, gender, and ethnicity were not strong predictors of any of the outcomes. The perceived presence of weapons in school was related to avoiding certain "dangerous" places in school and the perceived presence of weapons is not a strong predictor of actually being attacked or of perceived drug usage. The perception of rules as being inefficacious was related to more incidences of being attacked, and greater perceptions of substance abuse at school. A model of violence prevention is presented. Contains approximately 80 references. (RJM)

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Running head: Violence and substance abuse in schools

Adolescents' fears and school violence

David M.S. Kimweli & Eric M. Anderman
The University of Kentucky

Department of Educational & Counseling Psychology

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A previous version of this paper was presented at the annual meeting of the American Educational Research Association, Chicago, IL, March 1997. The research reported in this paper was supported by grants from the US Department of Education and the American Educational Research Association. Address all correspondence to David M. S. Kimweli, Department of Educational and Counseling Psychology, The University of Kentucky, 245 Dickey Hall, Lexington, KY 40506-0017.
E-mail: dmkimw00@pop.uky.edu. Phone: 606-257-1804/5562

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Abstract

In this paper, variables hypothesized as predicting violence in schools were examined. Violence was operationalized in terms of being attacked at school, and avoiding certain places in school. Substance abuse was operationalized in terms of students' perceptions of substance abuse in school.

Using multiple regression, results indicated that older students reported higher levels of substance abuse, but lower incidents of violence, than did younger students. Income, gender, and ethnicity were not strong predictors of any of the outcomes. The presence of weapons in school was related to avoiding certain dangerous places in school. The perception of rules as being inefficacious was related to more incidences of being attacked, and greater perceptions of substance abuse at school. A model of violence prevention for schools is presented.

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Violence and Substance Abuse In Schools: Psychological and Contextual Factors

Violence and drug use in schools have perplexed not only American society, but societies throughout the world. In an effort to understand and therefore curb violence and drug use, social scientists, scholars, policy makers, and researchers have expended many resources in terms of capital, time and energy. The public's concern over violence and drug use has not been ameliorated and has continued to be a major concern (Elam & Rose, 1995 see also Johnson, Bachman & O'Malley, 1989; Newcomb & Bentler, 1989).

Although several theories have been formulated to explain violence (e.g., Thio, 1988; Felson, Liska, South & McNutty, 1994; Blau & Blau, 1982; Blau & Schwartz, 1984; Kaplan & Peck, 1992), only two are relevant to the present research. One theory is the aggression theory due to inequalities (Blau and Schwartz,1984); another theory is Zuckerman's theory, which contends that violence and drug use are a result of sensation seeking behavior (Zuckerman,1971, 1979, 1991). These two theories raise the issues of socio-economic status and drug use for sensational arousal. Indeed, the sensation-seeking personality trait has been found to be a strong predictor of substance use (Barnea, Teichman & Rahav, 1992). The relation between aggression and socioeconomic inequalities still remains illusive, and warrants further study. Of no doubt though is the fact that violence and substance abuse in America's public schools have increased dramatically in recent years (Johnson, Bachman & O'Malley, 1989; Newcomb & Bentler, 1989).

The present study approaches school violence from a social learning theory perspective and examines violence as a result of the interaction between environmental events and personal psychological factors--Bandura's reciprocal determinism (Bandura, 1986). According to Bandura, people learn behaviors through modeling or observation of others. If applied deliberately and effectively, modeling can be an effective tool that can

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be used to teach good behaviors (Bandura, 1986; Schunk, 1987); in the present study it is postulated that children learn and practice violence within school settings when they see, experience or perceive the existence of violence. For example, they may bring weapons to school that they see other children carrying weapons, and they may use drugs that that other children use. Models need not be real, they can be imagined (Hill, 1990). Consequently, this research extends social learning theory to not only bad behavior in school, but to school violence.

Modeling plays a major role in both the expression and the use of aggression to solve problems (Bandura, Ross & Ross, 1963; Emery, 1989; Holden & Ritchie, 1991). Additionally, victims of violence often also are the victimizers (Anderman & Kimweli, 1997). Although television is considered to be a major model with which children spend much of their time (Timmer, Eccles & O'Brien, 1988), school environment, the availability of drugs within schools, and the presence of gangs and weapons in the school settings may be equally influential in serving as models for children's behavior (see Anderman & Kimweli, 1997). Further, children attacked with a weapon also may use weapons to attack others (Tygart, 1991). This reciprocity of using weapons to attack in effect recycles school violence.

School Violence

Despite the attention school violence has received by the media, studies on school violence are convoluted by the introduction of variables that are more suitable for studies of violence occurring outside the school. Some of these studies use analysis levels of individual students, rather schools and students; additionally, many studies focus on socio-economic status and hence are limited to urban centers and or minority populations. Many of these studies do not make a distinction between psychological issues and social issues (e.g. juvenile delinquency, deviancy, aggression, tracking, stereotypes, and other theoretical perspectives such as power, conflict and labeling) (see Agnew, 1985; Arnold

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& Brungardt, 1983; Uguegbu, 1979; Willemsen & VanSchie, 1989; Robinson, 1992; Tygart, 1991).

Additionally, the word "violence" has been defined differently by various researchers, thus compounding the convolution even further. For example, Kelly and Pink (1982), in their definition of school violence, included disrespect to teachers and administrators, theft, and physical assaults. Bandura (1973), Moyer (1987), Ross (1981), Steward and Kelso (1987) included in their definitions, quarrels with peers, verbal and physical assaults and extreme competitiveness. Consequently, Furlong, Babinski, Poland, Munoz and Boles (1996), concur that there is diversity of opinion as to which actions, events, and incidents should be "labeled school violence" (p. 34).

Definition of School Violence

For the purposes of this research, the definition of school violence, though inclusive of psychological, school environmental and personal or individual variables, focuses on the specific act of "being attacked while at school". This narrow focus is consistent with the federal government's definition of violence: simple and aggravated assault, robbery, and rape (Bastian & Taylor, 1991).This definition also is consistent with scholars' demand for a definition of violence that focuses on the most serious of behaviors (Alexander & Longford, 1992). Thus, the present study focuses on violence and substance abuse in school settings, and specifically examines predictors of being attacked while in school.

Predictors of School Violence

Previous research has indicated that a variety of personal, psychological, and contextual variables are related to school violence. For example, a study by Furlong and his colleagues indicated that victims of school violence were typically male, students who perceived school as unsafe, students with poor support networks, and students who

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reported worrying about school violence (Furlong, Chung, Bates, & Morrison, 1995). The present study, though descriptive in nature, examines school violence within the social learning theory framework, and uses a nationally representative sample of adolescents to examine the combined influences of (a) demographic characteristics, (b) psychological and attitudinal variables, and (c) perceptions of school contextual variables on violence and substance abuse in schools. Each of these respective classes of variables are discussed separately in the in the order presented above.

Demographic Characteristics

Age and Gender

Furlong et al.(1995) report that victims of violence and especially school violence are usually males who perceive schools as unsafe. Traditionally, more males than females have belonged to gangs. Lately however, gangs are no longer the domain of males (Willemsen & VanSchie,1989). Females are more likely to smoke than are males, and more and more females are joining gangs at a very early age (Willemsen & VanSchie,1989). The traditional perspective that gangs are the domain of males has led Willemsen and VanSchie (1989) to argue that our understanding of juvenile delinquency, aggression, and violence may be tainted by stereotypes. Skinner and Krohn (1992) examined age and gender differences and reported that adolescents are more likely to engage in drug usage, smoking, and school violence as they get older and approach adult status, since the desire to be viewed as an adult increases with age. Consequently, social forces, especially smoking, exert their influence on both sexes (Skinner & Krohn, 1992). However, there are gender and ethnic differences in risk behaviors and violent acts (Vannatta, 1996).

Ethnicity.

Research on school violence has tended to be focused on minority populated schools and communities. For example, a survey conducted by Wright, Sheley and Smith (1992), involving 2488 subjects, and lasting 2 years, exclusively interviewed minorities, and no comparison data was collected from non-minorities. Subsequently, minorities often are assumed to be violent (see Ugwuegbu, 1979). However, despite this anomaly, reputable research focusing on individual and school context effects on violence has been done, and supports the hypothesis that high levels of violence do indeed occur in schools that have high percentages of African American youth (Felson, Liska, South & McNutty, 1994). For example, one recent study found that African American youth are more likely to report being assaulted or attacked than are white youth (Paschall, Ennett & Flewelling, 1996). Delinquent behavior is more likely to occur in schools with high percentages of African Americans and students from low-socio-economic-status families (Felson, Liska, South & McNutty, 1994). Also, Paschall et al. (1996) found that African American youth were more likely than whites to report being attacked or having attacked someone, but the same was not true for low-socio-economic-status non-delinquent students.

Socio- Economic Status.

Socio- economic status is one of the cardinal pillars of the microstructural theory of violence. Microstructural theory (Blau & Schwartz,1984) postulates that violence in general emanates from two sources: one's ranking in society, as is the case with gender, and extremes of graduated inequality, as is the case with income. Blau and Schwartz (1984) see violence as pent--up aggression emanating from consolidated inequalities.

Researchers are divided as to the effects of socio-economic status on violence. Some researchers see the effect of socio-economic status on violence as a myth (Braithwaite, 1981; Elliott & Ageton, 1980; Elliott & Huizinga, 1983; Tittle et al, 1978), while others report higher levels of violence and delinquency in schools with a high percentage of low-socio-economic-status students (Felson, Liska, South & McNutty, 1994). Perhaps the high levels of delinquency and violence among low socio-economic-

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status students is due to the fact that these students are more likely to stay at home, alone and unsupervised (U.S. Bureau of the Census, 1990). Nevertheless, as students experience, witness, or observe delinquent behaviors, they may develop emotional reactions as a result of observational learning. Negative emotional reactions or arousal experienced or observed usually are manifested psychologically as anxiety and worry, while positive ones may be expressed as hope or optimism.

Psychological-Attitudes

Worry

Worrying about what will happen at school can be detrimental and unmotivating to children. Hoffman, Levy-Shift and Malinski (1996) found a relatively positive association between stressful life events such as violence and neuroticism in both preadolescents and adolescents. Stressed adolescents often re more likely to act up or to be aggressive (Blau & Shwartz, 1984).

Stressful life events may not only cause worry, but also depression, low self-esteem, and may cause students to become socially isolated and to believe they lack control over life events (Hammond & Romney, 1995).Worry and lack of control over life events may cause adolescents to view themselves as victims, and thus position themselves also to be victimizers. Research has indicated that adolescent victims of violence often are likely to be victimizers as well (Anderman & Kimweli, 1997). Therefore, worrying and feelings of lack of control over life events could initiate an endless circle of violence, especially if a child comes from a family with a history of violence (Emery, 1989; Holden & Ritchie, 1991). Indeed, assaultive or violently aggressive youth have been shown to not only worry and be anxious, but to have high levels of depression and other mental health problems (Curry, Pelissier, Woodford & Lockman, 1988; see also Hammond & Romney, 1995).

Hope

Hope and optimism for a bright future can be motivating to a child. A child

who is motivated to graduate and advance to the next class is less likely to act up, since motivated students often seek challenges (Deci & Ryan, 1985). Students who value academics and grades do not usually engage in delinquency or violence (Felson et al., 1994). There is a high correlation between hope and success in education (Sults, Lindholm, Goddard & Duncan, 1995; Tygart, 1991). Indeed, non-delinquent youth generate achievement-related selves, and expect and hope to get along in school and fear not getting along or failing in school (Oyserman & Markus, 1990).

Willingness of Children to Talk to Parents about School.

Much research and political talk has emphasized and centered on parent involvement, degradation of family values, hazards of single house-hold families, and deprivation of community based support systemS. Monk (1992) calls such communities "dysfunctional communities". Some studies link high achievement effects to school communality (Bryk & Driscoll, 1988; Bryk, Lee & Holland, 1993). School communality entails common values, caring, good relationships between teachers, students and parents. The teacher-student relationship is just as important as the student-parent relationship. A sense of communality involves not only norms and beliefs of communities and teachers (Fuller & Izu, 1986), but also parental involvement in children's lives.

Sults et al.(1995) reported that among other variables, family relationships and not family structure were predictive of delinquent and violent behaviors. While it is not clear what comprises "family relationships," one might surmise that family discussions, self disclosures among parents and children, and an open and unthreatening family atmosphere enhance family relationships. Thus it is plausible that a component of family relationships is talking about school and related issues. Indeed, family stress and conflict were found to be related to assaulting someone at school (Paschal, Ennett & Plewelling, 1996). Students in family situations that have violence seem to carry over the violence to school. Schools that combine academic press (challenge students at school to do better)

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and communality (having parents, teachers and students working together) are "pre-fit" for the students not only to do well academically but to stay in school and out of gangs (Shouse & Schneider, 1993; see also Shouse, 1996). Therefore, challenging students may have its benefits.

Being Challenged at School

Although Shouse's (1996) research indicates that academic press has different effects in different schools, one might argue that in general, students go to school to learn, and therefore each and every student should spend his/her time and energy on learning and personal growth. But as Noguera (1995) argues, students often forget this purpose. Those students who don't forget, and do value education, usually do not engage in delinquency and/or violence (Felson et al., 1994). In fact, Brack, Brack & Orr (1994) reported that high levels of violence were associated with low self-esteem and low achieving. Students that are not challenged at school may engage in risky behaviors (Roe, 1989a; Roe, 1995). Students who engage in risky behaviors also may be problem-prone (Jessor, 1991). Problem-prone students, defy school rules, smoke, drink and fight.

Many of these problem-prone students end up dropping out of school. Drop outs are more likely in comparison with other groups to perpetrate and to be victims of violence (Beauvais et al, 1996). Subsequently, the present research examines whether students who find school challenging do indeed experience less incidences of violence. Theoretically, it can be argued that students who find school challenging may not have the time to cluster and loiter in areas frequented by gangs and problem-prone students within the school environment (see Murphy et al., 1982).

School Environments.

School Environment Modeling Effect

Perceptions of the effects of school contextual variables on violence, and substance abuse in schools are cardinal to the present research for three reasons: 1) safe

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and drug free schools are a top concern of parents (Stephens, 1994) and physical assaults in schools are a grim reality (Sharp, 1993). 2) public schools are public institutions that students are required and/or compelled by law to attend (Darling-Hammond, 1996), and therefore must be safe, secure and peaceful (Stephens, 1994). 3) more importantly, students spend more time per school year in the school environment than in any other environment, other than sleeping.

When time spent on other competing activities for the pupil's time at home (such as watching television, dating, doing chores, playing, and eating) are accounted for, then, very little time is left for child/parent interaction (Timmer, Eccles & O'Brien, 1988). Subsequently, the school environment may have a great impact on a pupil's lives, since students spend a great deal of time at school. Indeed, one might argue that quantity should translate to quality. Consequently, students are a sum if not a product of all of the experiences gained at school, either through interactions with peers or teachers. Subsequently, school environments may have a far greater modeling effect than once thought either through observational learning or vicarious reinforcement (see Bandura, 1986). Interestingly, students in the middle school grades probably spend more time while in school with teachers than among themselves, once we account for breaks, lunch, and in-between class times.

Weapons at School

The idea of recycled violence takes a life of its own when considered in a school environment context. Students assaulted at school with a weapon may become more likely to bring a weapon to school. According to Tygart (1991), an assaulted victim with a weapon is likely to assault with a weapon. As Kingery, Pruitt, Heuberger, & Brizzolara (1995) pointed out, students "must be convinced that school environments are safe, before they will cease carrying weapons to protect themselves" (p. 343). Indeed, a study by Avery (1996), in a Florida county, reported anger as the most frequently cited reason for violence. Thus students that are victims may victimize others (Anderman & Kimweli,

1997), may assault with a weapon (Tygart, 1991), and may engage in stealing, and in the most serious cases engage in gang and drug activities.

Stealing, Gang Activity and Drug Availability.

Oyserman and Markus (1990) argue that adolescents' antagonism drives them to early appropriation of adult rights, such as drinking, smoking, and substance abuse. Subsequently, social forces that influence these behaviors become important as adolescents get older (Skinner & Krohn, 1992). Newcomb and Bentler (1988) found that drug users acquire adult roles early in life and have greater difficulty coping with the demands of such roles. Additionally, Tong, Wong, and Schwarzer (1996) found that psychological forces such as susceptibility to peer pressure and perceived control to gain access to drugs drive adolescents to use marijuana. Earlier studies by Dielman et al.(1990; see also Alberts et al; 1992) had reached the same conclusions -- that peer alcohol use, peer norms regarding alcohol use, and susceptibility to peer pressure account for most of the variance in alcohol use among adolescents. Subsequently, perceived tolerance of alcohol and substances of abuse is a strong predictor of the use of alcohol and marijuana (Kandel, 1980).

Violent behaviors and substance abuse have been associated with suicidality among youth (Vannatta, 1996). Subsequently, tobacco, alcohol and marijuana use are significant predictors of violent behavior (Sults, et al., 1995). The present research examines the effect of these variables only in the school setting. Since drugs, cigarettes, marijuana, and alcohol are not officially sold at school (schools are not in the business of trading drugs), this research investigates how easily students thought they could get these substances while at school. Apparently, these substances are available to students in school settings. Such substances may be available for a variety of reasons, including the fact that vendors are located very near to schools and students often have time available to sneak out of school, students may bring such substances to school, and school bus

stops (where some students are dropped off and picked up everyday) may be located near places where drugs are sold.

Noguera (1995), reports that he has "visited schools where children openly gambled and play dice in the hallways, and where the presence of an adult is insufficient reason to put out a cigarette or a joint" (p. 204). Students in schools as reported by Noguera do not seem to have either eternalized moral values and principles of authority figures, or adopted external standards of their teachers as the their own (Berk, 1994; Hoffman, 1979). The implication of Noguera's observation is clear: modeling within school settings does not seem to foster concern for the rights and feelings for others (Lipscomb, MacAllister & Bregman, 1985).

School Rules

Student's perceptions of school rules, as to whether the rules are fair/unfair, effective or ineffective, may explain why drug use, gang activity, and violence exist in schools. Vannatta (1996) found school misconduct, and unfair/strict rules to be the leading predictors of violent actions. Although Vannatta did not explain the variance accounted for by each of these predictors, his findings raise interesting questions: What is a unfair/strict rule? What is it about these rules that associate them with violent acts? These and many other questions will be left to other researchers. This research only will concern itself with perception of rules as fair/unfair or ineffective and school violence.

Previous research has shown that fear does not necessarily lead students to comply with rules, nor do sanctions (Pestello, 1989). Similarly, maintaining social control through the use of force and discipline often does not work (Noguera, 1995). Skinner and Krohn (1992), argue, for example, that rules against buying cigarettes lose their salience as inhibitors of smoking, as adolescents get close to ages associated with adulthood. For rules to work, the authority of teachers and public school officials must be effective (Noguera, 1995). Rules, like other issues of social justice, must be applied equitably (Bettman & Moore, 1994), must make schools safe, less impersonal ,and

provide pupils with a sense of stability (Noguera, 1995). Noguera (1995) further argues that schools that feel safe not only have a sense of community and collective responsibility, but students consider such schools to be sacred and too important to risk being expelled. This sense of communality is especially important for low-and middle SES schools, when combined with academic press (Shouse, 1996). Indeed McCormick and colleagues (1994), while studying a South Carolina school system, reported that direct change in rules and organizational structure resulted in better education.

The purpose of the present study is to examine variables that are related to aspects of school violence and drug abuse in school settings. Using a nationally representative sample, we examine the collective effects of demongraphic, psychological, and environmental variables on several violence and substance-abuse-related outcomes. Using a social learning theory perspective (Bandura, 1986), we examine the relations among social and individual variables, and their predictive power in models of violence and substance abuse in school settings.

Method

Sample

Data for this study come from the 1993 National Household Education Survey (NHES; National Center for Education Statistics, 1993). The sample includes data for 6,504 students in grades 6 through 12. In this sample 25.5 % of the participants were minorities, 50.1% were female, and 90.7 % attended public schools. Students in the sample came from varied backgrounds (White 74.5%, Black 15.5%, American Indian or Alaskan Native 0.8%, Asian or Pacific Islander 2.0%, some other race 7.2%). Additionally, Hispanic white students were classified as white and Hispanic Black students were classified as Black. Overall 14.4% identified themselves as being of

Hispanic origin and 84.6 as not of Hispanic origin. Family income for the students' household in this sample varies from $ 5000.00 to $ 75,000.00 per year. The NHES data set involved a complex sample design, and since standard statistical programs such as SPSS and SAS assume simple random assignment of subjects, the standard errors produced by these programs often may be inappropriate for such complex data sets. Consequently, all final analyses were performed sing the WESTVAR PC software package, using the appropriate design weights, and are generalizable to the United States as a whole.

Construction of Dependent Variables

Three dependent variables were created (see Table 1 for sample items). The first dependent variable represented the frequency of being attacked in school. The second variable was an index of how often students reported avoiding certain places in school. The final dependent variable represented perceptions of drug and alcohol abuse in school. All dependent variables were created by summing the total number of "yes" responses to each item.

Attacked Student answered "Yes" and "No" on various questions relating to being bullied and physically assaulted. The measure was calculated from the summation of the "Yes" responses. Sample items are displayed on table 1.

Avoiding certain places This scale was developed from the summation of the "Yes" responses on various questions on whether the child avoided certain places in school, such as the playground, hallways and behind buildings. See table 1 for sample items.

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Getting high at school This variable is the summation of the "Yes" responses to all of the questions dealing with being high or taking drugs, alcohol and marijuana while at school. Sample items are presented on table 1.

Construction of the Independent Variables

Three sets of predictor variables were developed (see Table 1). Demographic variables included age, gender, minority status (all non-white students and unidentified race-"some other race" were classified as minorities), and family income. Psychological predictors include indices of worrying, hopefulness, and feeling challenged at school. A composite measure of how often students reported talking with their parents about school-related issues also was computed. School environmental variables included measures of the presence of weapons in school, stealing, gang activity, the availability of drugs and alcohol, and perceptions of the fairness and efficacy of school rules.

For dichotomous variables, scales were developed using the summation of "yes" responses. For the Likert-type responses, scale development was guided by factor analysis. Scales for those items represent the mean response on each item. Those scales displayed good internal consistency (Cronbach's Alpha > .70).

Age, minority, gender, household income Student age ranged from 11 to 17 years (grades 6 to 12). Age for each child is the actual age reported in 1993 data collection period. Gender was coded 1 for males and 2 for females. Minority students were coded 1 while non-minority were coded 0. Household income is a range from $ 5000.00 or less to over $75,000.00 per year as reported in the NHES data set.

Worry at school Students answered "Yes" and "No" to various questions relating to worries about school and harm while at school. Examples are "worry about harm in

school/ground," or "worry about harm in classroom". See table 1 for additional sample items.

Hopefulness or optimism This scale is the summation of the "Yes" responses on questions such as "Does the child think he/she will graduate from high school?" " Does the child think he/she will graduate from college?" See Table 1 for additional sample items.

Gang activities in school Students answered "Yes" and "No" on items asking questions relating to gang activity while at school. Such questions include: "Any students in fighting gangs?" "Does child belong to a gang?" The scale is the summation of the "Yes" responses. Refer to Table 1 for additional sample items.

Perceptions of rules as unfair/ ineffective. This scale was developed from likert-type responses to various items dealing with school rules. The items were anchored with 1 for strongly agree and 4 for strongly disagree. This scale is the mean response on each item. The scale displayed good internal consistency (Cronbach's Alpha = 0.73).

Weapons at school Students answered "Yes" and "No" to items asking various questions on whether or not students brought a particular weapon to school. The scale is the summation of all the "Yes" responses. Refer to Table 1 for sample items.

Talk to parents about school. This scale is the summation of the all the "Yes" responses to questions inquiring as to whether the child taiks to parents about various school items. Sample items are displayed on Table 1.

Availability of substances at school Thi measure was developed from likert-type responses to items asking how easy it is to get various illegal substances while at school

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(1 = very easy, 4 = impossible). This scale is the mean responses on each item. The scale displayed good internal consistency (Cronbach's Alpha = 0.87).

Being challenged at school. Students answered "Yes" and "No" to this item, which is presented in Table 1.

Stealing Students answered "1= strongly agree, 4=strongly disagree" to items asking if things had been stolen from the student, from his/ her locker, desk and if students saw things taken by force. See Table 1 for sample items.

Results

Means and standard deviations for the variables are presented in Table 2, and bivariate correlations between the variables are displayed in table 3. Multiple regressions were run to examine clusters of predictors for the three dependent variables. Results are displayed in Table 4. The regression analyses were run using the appropriate NHES design weights, using the WESTVAR PC statistical package; thus all results are fully generalizable to the population of adolescents in the US.

Relations between variables

An examination of the correlations presented in Table 3 indicates several noteworthy relations. Specifically, being attacked in school is associated with worrying about school-related issues, with gang activity at school, and with perceptions of school rules as being unfair. Avoiding certain places at school is associated with worrying, with the presence of weapons in school, and with gang activity in the school. Getting high at school is associated with age (with older students reporting that they get high more than

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younger students), to perceptions of school rules as being unfair, to gang activity and stealing in school, and to the perceived availability of drugs.

Multiple Regression Analyses

Multiple regression analyses were run examining sets of predictors of being attacked while in school, avoiding certain places in school, and getting high at school.

The demographic variables did not emerge as strong predictors in the final models. Minority students were attacked in schools less than did non-minority students ($\beta = -0.14$, $p<.001$). In addition, minority students reported avoiding certain places in school more than did non-minority students ($\beta = 0.16$, $p<.001$). Interestingly, older students reported being attacked in school and avoiding certain places in school less than did younger students ($\beta = -0.07$, $p<.001$); however, older students reported getting high at school more than did younger students ($\beta = 0.08$, $p<.001$).

In examining the coefficients for the psychological/attitudinal variables, worrying about violence was related positively to being attacked in school ($\beta = 0.23$, $p<.001$) and to avoiding certain places in school ($\beta = 0.21$, $p<.001$).

A number of the school environment variables emerged as predictors. The perceived presence of weapons was related to avoiding certain places ($\beta = .61$, $p<.001$), but was unrelated to actually being attacked in school. The perceived presence of gang activities in school was related positively to being attacked in school ($\beta = 0.19$, $p<.001$), to avoiding certain places in school ($\beta = 0.07$, $p<.001$), and to getting high at school ($\beta = 0.25$, $p<.001$). The perceived availability of substances at school was the strongest

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predictor of getting high at school (β = -0.45, $p<.001$). Perceptions of school rules as being ineffective and unfair were related positively to increased reports of being attacked (β = 0.29, $p<.001$) and to drug/alcohol use (β = .24, $p<.001$).

These models explained significant proportions of the variance in the dependent variables, with the model for predictors of being attacked in school explaining 25% of the variance, the model for predictors of avoiding certain places in school explaining 27% of the variance, and the model predicting getting high at school expalining 43% of the variance.

Discussion

Results of the present study indicate that violence and substance abuse in schools are associated with certain identifiable variables. Some of the strongest predictors of these variables represented controllable facets of the school environment. While the media often portrays males and minority students as being highly involved in violence, results of the present study indicate that gender and ethnicity have little to do with certain aspects of violence in schools, once school-contextual variables have been accounted for. Being able to recognize these variables is important, since the identification of these factors may lead to better methods of prevention.

One of the strongest and most intriguing findings of the present study is that the perceived presence of weapons in school was related to avoiding certain "dangerous" places in school. However, the perceived presence of weapons is not a strong predictor of actually being attacked, or of perceived drug usage in school. It is possible that the

avoidance of these dangerous locations in the school building may be causally related to fewer actual attacks in school. Indeed, if students know that they should avoid certain places, then the avoidance of these dangerous locations may be related to decreased chances of being attacked.

Another intriguing finding is the association between school rules being perceived as unfair/inconsistent and increased reports of being attacked and getting high at school. While it was not possible to determine the causal direction of this relation, it is possible that perceptions of rules as unfair may be related to increased feelings of hostility and anger, which ultimately may contribute to participation in violent activities; or, it may be that consequences for breaking school rules are meted unfairly, unsystematically or randomly.

Not surprising but disturbing is the finding that the availability of drugs and the perceived presence of gangs in school were related to being attacked and to getting high at school. What is disturbing about these findings is that drugs are readily available to students while in school, and students do in fact get high in school

Implications

Results of the present study indicate that while demographic variables, such as ethnicity, age, and gender, are not strongly related to reports of being attacked in school, avoiding places in school, and substance abuse, contextual are more highly predictive. These results have implications for those interested in violence and substance-abuse prevention. Specifically, these results suggest that individuals interested in the prevention of school violence and substance abuse in schools must attend to both individual and contextual influences on engagement in risky behaviors.

Studies have identified school-structural variables that are conducive to lower levels of violence, such as smaller schools (Russell, 1990), and increased security and preventive measures (Rich, 1992). Other micro-level interventions (e.g., Commission on Youth Violence-CYV) that may be useful include a focus on perpetrators and victims, alleviation of psychological trauma, and the strengthening of families (American Psychological Association, 1993).

GANADEN: A Model for Intervention and Prevention

Since guns, alcohol, and narcotics are detrimental to education, a two faced approach, "GANADEN" (the acronyms for guns, alcohol, narcotics are detrimental to educational numinous) is recommended. GANADEN, a Hebrew transliteration of the Garden of Eden, allows for a cleaning from inside-out: First, the GAN, the school environment, must be an Elysian field, safe and free from substances of abuse (e.g., guns, alcohol and narcotics)--thus we must clean up "the garden." This cleaning up can be accomplished in a number of ways. For example, school administrators may want to make sure that students do not loiter, and wander near places that are considered dangerous. In addition, student lockers might be placed in conspicuous areas or be monitored to ensure that guns and alcohol and narcotics do not filter through. Second, EDEN, as tenders of the garden, teachers should be trained to assume a quadratic role: detective, parent, psychologist and teacher.

Anderson, Pintrich, Clark, Marx and Peterson (1995) advocate that prospective teachers should be helped to learn to analyze teaching from multiple perspectives; they call this the contemporary psychological perspective. It is recommended that the contemporary psychological perspective should be emphasized in terms of the quadratic role (detective / parent / psychologist / teacher) when applied to the study of violence and drug use in schools. Thus teacher training programs, which often ask teacher candidates to utilize multiple perspectives (Anderson et al., 1995) may need to be changed to focus on the multiple roles that teachers need to play in order to lessen school violence. For

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example, the detective could play such roles as monitoring cluster areas for bullies, since bullies tend to congregate in larger groups than other adolescents (Boulton, 1995). Further, training teachers in crime analysis may provide valuable information regarding crime incidence and prevention (Stephens, 1994). The parent role involves extending classroom management skills to break rooms, playgrounds, hallways----literally parenting the adolescents beyond the call of duty as a teacher. The psychologist role involves taking time to understand the students, their needs, problems, aspirations, and peeves. When teachers assume the role of psychologist, they are trying to help students manage their anger and frustrations. Finally, it is recommended that school rules be overhauled with the aim of making them broader, understandable, and specific as to the type of punishment to be meted in the event that they are broken. In esssence, school rules must be effective, but results of the present study indicate that school rules should be perceived as both fair and effective. Stipulating the specific consequences of breaking a school rule beforehand helps students predict possible outcomes, and may help students to develop a sense of self-efficacy in facing the challenge of not breaking the school rule. Additionally, school rules can not be fair or perceived to be fair if the consequences or punishments are meted differently to different students for the same offenses. Furthermore, if students know beforehand the consequences they may face, they may have to think twice before engaging in a particular behavior.

Limitations

The present study has a number of limitations. First, the measures were constructed using previously designed items. Second, the data are correlational; thus it is impossible to draw causal conclusions from these data. Future studies using longitudinal data and more highly refined mesures are warranted. Third, the NHES data set does not contain a great deal of contextual data about the school environments. Future studies using school-level data and multi-level regression techniques will add much to our

understanding of violence in schools. Fourth, the data do not provide information about the types of communities in which these schools are located. Future studies examining neighborhood influences on school violence and substance abuse also are needed. Fifth, these are student self-reported data. Studies combining and validating self-report data with observational data will add greatly to the knowledge base.

Results of the present study indicate that contextual variables that are under the control of teachers and administrators are linked with various aspects of violence and substance abuse in schools. Although the media often focuses on demographic predictors of violence, results of the present study indicate that variables such as race and gender have little to do with violence and substance abuse in schools, once other psychological and contextual variables have been accounted for. The present data are generalizable to the United States as a whole. These results suggest that violence and substance abuse in schools are not inevitable. The power to curb violence and substance abuse within school settings is attainable. Indeed, it is possible to create learning environments that are both safer and more effective.

Table 1.

Sample items

Variables	Sample Items	Scale
	DEPENDENT VARIABLES	
Attacked in School		
	Child had things taken by force	1= Yes, 2= No,
	Students Bullied	
	Child was Bullied	
	Child was physically attacked	
	Physical attacks took place	
Getting high at school:		
	Any students drunk at school	1= Yes, 2= No
	Drug dealers at school	
	Any students high at school	
Avoiding Places in School		
	Child avoid places on school grounds	1= Yes, 2= No
	Child avoid places in school	1= Yes, 2= No
	Child skipped school	
	INDEPENDENT VARIABLES	
Worry at School		
	Child worried about harm in classroom	1= Yes, 2= No
	Child worried about harm in school/ground	
	Child worried about harm to/from school	
	Child worried about force	
	Child worried about theft	
Hopefulness		
	Think child/self will graduate from high-school	1= Yes, 2= No
	Think child/self will graduate from college	
	Think child/self will attend school after high school	
	Child attending or enrolling in school	
Gang Activities at School		
	Any students in fighting gangs	1= Yes, 2= No
	Any incidents from gang activity	
	Child belongs to a gang	
Stealing		
	Things stolen from lockers or desks	1= Yes, 2= No
	Things stolen from you (child)	

Child saw things taken by force	
Perceptions of Rules as Unfair/Inconsistent	
	1= strongly agree,
Every one knows the school rules	4= strongly disagree
School rules are fair	**(α = 0.73)**
Punishment is consistent	
Schools rules are strictly enforced	
If rule is broken, punishment is known	
Weapons at School	
Child brought nunchucks to school	1= Yes, 2= N0
Child brought gun to school	
Child brought weapons to school	
Child brought knife to school	
Child brought brass knuckles to school	
Child brought razor blade to school	
Child brought mace to school	
Child brought spiked jewels to school	
Child brought stick, club, bat to school	
Other students bring weapons	
Child brought other weapon	
Talk to Parents About School	
Child talked about school events	1= Yes, 2= No
Child talked about drugs	
Child talked about threat/danger	
Availability of Substances	
How easy to get beer/wine at school	1= Very easy
How easy to get cigarettes at school	4= Impossible
How easy to get marijuana at school	**(α=.87)**
How easy to get liquor at school	
Students Challenged at School	
Would you agree child is	1= Very easy
(I am) challenged at school	4= Impossible

Note. Household income ranged from $ 5,000.00 or less to over 75,000.00 per year.

Table 2.

Means and Standard Deviations For Predictor Variables

Variable	Mean	SD
Child's Age	14.21	2.07
Minority	0.255	0.44
Sex	1.50	0.50
Total household income	7.22	2.95
Worry	0.75	1.1
Hopefulness	3.8	0.48
Talk	1.5	1.0
Weapons	7.8E	0.27
Stealing	0.75	0.68
Ganging	0.55	0.80
Unavailability of Drugs	2.86	0.90
Rules unfair ineffective	1.93	0.52
Child challenged	2.07	0.64

Table 3

Bivariate Correlations Between Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Attacked in School															
2 Avoid Places in School	0.24														
3 Getting High at School	0.28	0.87													
4 Age	-0.07	-0.13	0.37												
5 Minority	-0.02	0.16	0.04	0.005											
6 Gender	-0.02	0.02	00.0	-0.02	0.01										
7 Household Income	0.00	-0.15	0.00	-0.01	-0.28	0.00									
8 Worry	0.36	0.44	0.13	-0.14	0.09	0.07	-0.12								
9 Hope	-0.03	-0.03	-0.09	-0.14	-0.02	0.11	0.15	0.03							
10 Talk to Parents	0.06	0.13	-0.06	-0.23	0.03	0.12	-0.01	0.25	0.14						
11 Weapons at School	0.13	0.33	0.08	0.00	0.08	0.00	-0.09	0.23	-0.06	0.03					
12 Stealing at School	0.30	0.14	0.20	-0.04	-0.04	0.01	0.02	0.37	0.04	0.04	0.07				
13 Gangs at School	0.28	0.18	0.39	0.11	0.08	0.00	-0.06	0.21	-0.05	0.01	0.11	0.19			
14 Substances Unavailable	-0.23	-0.05	-0.59	-0.44	-0.02	0.00	-0.04	-0.06	0.08	0.11	-0.06	-0.17	-0.34		
15 Rules are Unfair	0.23	0.09	0.33	0.17	0.05	-0.04	-0.03	0.12	-0.12	-0.13	0.09	0.15	0.19	-0.33	
16 Challenged at School	0.05	0.05	0.06	-0.34	0.03	0.00	-0.06	0.04	-0.03	-0.04	0.03	0.02	0.06	-0.02	0.19

Table 4.

Multiple Regression Models for Being Attacked in School, Avoiding Places in School, and Getting High at School

	Attacked in School	Avoid Places in School	Getting High at School
Intercept	2.17***	0.92***	0.26
Demographics			
Age	-0.07***	-0.04***	0.08***
Gender	-0.07*	0.01	0.02
Minority Status	-0.14***	0.16***	0.00
Family Income	0.01*	-0.01*	0.01
Psychological/Attitudinal			
Worry	0.23***	0.21***	0.03**
Hopefulness	-0.08	-0.02	-0.04
Talk to Parents About School	0.01	0.00	0.03*
Student Challenged at School	-0.02	0.01	0.03
School Environment			
Weapons at School	0.11	0.61***	-0.01
Stealing at School	0.21***	-0.02	0.10**
Gang Activities at School	0.19***	0.07***	0.25***
Unavailability of Substances	-0.18***	-0.04*	-0.45***
Perceptions of School Rules as Unfair Ineffective	0.29***	0.03	0.24***
R-squared	0.25***	0.27***	0.43***

Note: Gender is coded 1= males, 2= females; minority is coded 1= minority, 0= non minority.
$p < .05$ * $p < .01$ ** $p < .001$***

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